

POLLUTION CONTROL ACTS AND REGULATIONS OF INDIA

by
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In 1976, when the Indian parliament passed the 42nd amendment to its constitution safeguarding the environment, it became the first country in the world to do so. The amendment was to "endeavor to protect and improve the environment and to safeguard the forests and wild life of the country." It imposes a duty on every Indian citizen "to protect and improve the natural environment including forests, lakes, rivers, and wild life, and to have compassion for living creatures."

According to the Environment Protection Act of 1986, Environment is that which includes the "inter-relationship which exists among and between water, air, and land and human beings, other living creatures, plants, micro-organism and property."

Essentially, The Water (Prevention & Control) Act, 1974 can be considered to be truly the first regulations. It has been amended many times since then.

Basically, there are seven Pollution regulations.

1. The Water (Prevention & Control of Pollution) Act, 1974, and its amendments;
2. The Water (Prevention & Control of Pollution) Cess Act, 1974 and its amendments;
3. The Air (Prevention & Control of Pollution) Act, 1981 and its amendments;
4. The Environment (Prevention) Act, 1986 and its amendments,
 - (a) National Environmental Tribunal Act of 1995 and
 - (b) National Environmental Appellate Authority Act of 1997;
5. Hazardous Waste (Management and Handling) Rules, July 1989 and
6. The Public Liability Insurance Act, 1991.

The Public Liability Insurance Act 1991 has been included as the sixth environmental regulation because it is the first regulation which gives some teeth to the other five pollution regulations listed above.

THE CENTRAL AND STATE BOARDS

It was the Water Act of 1974 which established a Central Pollution Board and a State Pollution Control Board. Subsequently, the same Boards have been given the power to govern all the pollution regulations passed since then and any other to be put in regulations in the future.

Constitution and Authority of the Board

Pollution Boards are to be headed by a Chairman and a few members who are all appointed. The Chairman as well as the Board members are appointed by the respective governments. The members to be appointed to the Boards are to be selected from various interest groups such as Corporations, Public Health Engineering, Agriculture, Forestry, Fishery, etc.

Basic purpose of these Boards are to advise their respective governments on any matter concerning the prevention and control of pollution in their area of jurisdiction. The Central Board coordinates as well as oversees all the other State Boards and their functions.

To implement any environmental pollution control act, the Board has the power to obtain information "make surveys of any area and gauge and keep records of the flow of volume... of the stream." It has the power to take samples, analyze any matter from the industry. The Boards also have the authority to establish or recognize any laboratory for chemical analytical work.

THE WATER (PREVENTION AND CONTROL OF POLLUTION) ACT, 1974 AND ITS AMENDMENTS

The purpose of this act is "to provide for the prevention and control of water pollution and the maintenance or restoring wholesomeness of water for the establishment, with a view to carrying out the purpose of aforesaid of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for matters connected therewith." This is the Act that established the Central and a State Board and also the authority and power to constitute as many committees as it feels essential to carry out specific functions for it.

The Act specifically prohibits "any poisonous, noxious or polluting matter' into any stream or well. A consent from the State Board is required for any type of new discharge into any new stream or well. This also includes consent for "temperature" discharges as done by cooling tower users. In general, this means that a State consent or permit is

required for all types of intake and/or discharge of any type of liquid or water either from a running stream or well.

Under these rules, "effluent standards to be complied with by persons while causing discharge of sewage or sullage or both" have been specified. Standards for small scale industries have been specified separately.

Penalties for non-compliance with the permit or polluting in any way are imprisonment for three months and fine of Rs. 10,000 (One US Dollar equals about thirty six Indian Rupees) or fine up to Rs. 5,000 per day of violation or both plus any expenses incurred by the Board for sampling, analysis, inspection etc. These penalties can also be imposed for "obstructing any person acting under the orders or direction of the Board" or for "damages to any work or property of the Board."

There are penalties also which extend up to seven years plus other monetary fines for other similar offenses. Any "director, manager, secretary or other officer of the company may also be deemed to be guilty" if proved that the offense occurred with their "consent or connivance." In case of the government, department head could be held liable.

Laboratory

The central as well as the state government can start a lab to do analysis on samples of water or of sewage or trade effluents for tests. A fee will be charged for these services.

The law can also stop or restrain a person from discharging any pollutant to any stream or well "which is likely to cause such pollution from so causing." Imprisonment up to three months and a fine up to Rs. 10,000 for every day of violation during which such failure continues after the conviction for first such offense.

THE WATER (PREVENTION AND CONTROL OF POLLUTION) CESS ACT, 1977

This law provides for the levy and collection of a Cess on water consumed by persons carrying on certain industries and by local authorities, with a view to augment the resources of the Central and State Boards for the prevention and control of water pollution constituted under the Water (Prevention and Control of Pollution) Act, 1974." Industries were specified in Schedule I. They are:

Schedule I

1. Ferrous: Metallurgical industry
2. Non-Ferrous: Metallurgical industry
3. Mining industry
4. Ore processing industry
5. Petroleum industry
6. Petro-chemical industry
7. Chemical industry
8. Ceramic industry
9. Cement industry
10. Textile industry
11. Paper industry
12. Fertilizer industry
13. Coal (including coke) industry
14. Power (thermal and diesel) generating industry
15. Processing of animal or vegetable products industry

Collection of Cess was based on the quantity of water consumed. The State government had the authority to collect the Cess from the industry.

The purpose of which water is consumed follows:

<i>Purpose for which water is consumed</i>	<i>Maximum Rate Under Sub Section 2A of Section 3</i>
1. Industrial Cooling, spraying in mine pits or boiler feed	Two and one fourth of a paisa per kilo litter (One US penny equals about thirty six Indian paisa).
2. Domestic purpose	Three paisa per kilo litter.
3. Processing whereby water gets polluted and the pollutants are easily bio-degradable	Seven and one half paisa per kilo liters
4. Processing whereby water gets polluted and the pollutants are not easily bio-degradable and are toxic.	Nine and a half paisa per kilo liter.

Under Rule 6, industry-wise maximum quantity of water usage allowed has been specified.

THE AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981

This Act was passed for the "prevention, control and abatement of air pollution." This law defined an air pollutant as "any solid, liquid or gaseous substance present in the atmosphere in such concentration as may be or tend to be injurious to human beings or other living creatures or plants or property or environment."

In this Act, power to declare air pollution, control areas has been given to the state government after consulting the State Board. By this, it may control or even prohibit burning of certain materials in those specific areas.

This Act requires approval prior to operating any industrial plant. Government may suggest "control equipment" prior to giving its consent to any industry for its operation. It may include chimney etc. In case there is any new technology for emission control, then the Board may insist on this to being installed. Standards specific to industries have been specified.

Penalties were for a minimum of six months imprisonment to a maximum of seven years and fine up to Rs. 5,000 for every day during which contravention continues after conviction for the first such contravention. This law makes it clear that when offenses are committed by a company, its director, manager, secretary or other officers could be held guilty and punished accordingly.

THE ENVIRONMENT (PROTECTION ACT, 1986)

The Act was enacted to "provide for the protection and improvement of environment and for matters connected therewith." this act defined environment which includes "water, air, and land and the inter-relationship which exists among and between "water, air and land, and human beings, other living creatures, plants, micro-organisms and property." It also defined a hazardous substance as "any substance or preparation which, by reason of its chemical or physics-chemical properties, or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organisms, property or the environment."

This law enlists general powers of the central government which included "all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution." The law also included "the standards of quality of air, water, or soil for various areas and purposes, the maximum allowable limits of concentration of various environmental pollutants.

procedures and safeguards for the handling of hazardous substances."

The Act also deals with prevention, control and abatement of environmental pollution by specifying the restrictions allowed to the discharge or emit any environmental pollutant in excess of such standards as may be prescribed. Nor is anyone allowed to handle hazardous substances except "as may be prescribed." In case of discharge of excess of any material the industry must forthwith.

Under Section 3(1) and Rule 5(3)(d) of this Act, Coastal Regulation Zone (CRZ) have been declared and which restrictions on industries and processes have been imposed. This restricts setting up or expansion of any industry.

"(a) Intimate the fact of such occurrence or

(b) be bound, if called upon, to render all assistance, to such authorities or agencies."

This law requires that all companies must have some sort of a Spill Prevention Control and Countermeasures Plan (SPCC). Environmental auditing is required by this law starting in 1993. This report is to be submitted to the State Pollution Control Board. The law indicates that the government may "recognize one or more lab as environmental lab to carry out tests, etc."

Penalty for contravention of the act may be punishable by imprisonment up to seven years or fine up to Rs 1 lakh (One lakh equals one hundred thousand). Additional fine of up to Rs 5,000 for every day of violation.

Specific standards for emission or discharge of environmental pollutants from industries, operations or processes have been specified. However, the government may prohibit or limit certain emissions from specific locations due to environmental factors.

It is under this Act that makes it mandatory for the specified 29 industries which have investment beyond certain threshold that an Environmental Impact Assessment (EIA) is required. They require public hearings. The Amendment was issued on January 27th and subsequently amended on May 4, 1994. EIA was initially introduced for the River Valley Projects in 1978-79. Also under this act, National Environmental Tribunals Act of 1995 and National Environmental Appellate Authority Act of 1997 were enacted.

National Environmental Tribunals Act of 1995

The National Environmental Tribunal Act of 1995 was enacted to provide for strict liability for damages arising out of any accident occurring while handling any hazardous substance and for the establishment of a National Environment Tribunal for effective and expeditious disposal of cases arising from such accidents, with a view to giving relief and compensation for damages to persons, property and the environment and for matters connected therewith or incidental thereto.

NATIONAL APPELLATE AUTHORITY ACT OF 1997

This Act has been enacted to "hear appeals with respect to restriction of areas in which any industries, operations or processes or class of industries, operations or process shall not be carried out or shall be carried out subject to certain safeguards under the Environment (Protection) Act, 1986 and for matters connected therewith or incidental thereto." According to Section 12 of the Act the Authority shall not be bound by the procedure laid down in the code of civil procedure, 1908, but shall be guided by the principles of natural justice. Subject to the other provisions of this Act and of any rules made by Central Government, the Authority shall have power to regulate its own procedure, including the fixing of places and times of its enquiry and deciding whether to sit in public or private. Also, with the effect from the date of establishment of the Authority, no civil court or other authority shall have jurisdiction to entertain any appeal in respect of any matter with which the Authority is empowered by or under this Act.

HAZARDOUS WASTE (MANAGEMENT AND HANDLING) RULES, July 1989

The Ministry of Environment and Forests came out with Wastes (Management and Handling) Rules, July 1989 under the Environment (Protection) Act, 1986. The main purpose for promulgation of these Rules was for management and handling of hazardous substances.

The basis of any environmental pollution has been the generation and disposal of hazardous substances. To regulate them, all the above regulations have been promulgated. Proper disposal is probably the most important aspect of any

industry. For this reason, guidelines have been issued under this set of rules.

I. Guidelines for Occupier/Generator of Hazardous Wastes

These rules apply to listed hazardous wastes. The occupier or generator is required to take all the necessary steps for proper handling and disposal of these chemicals. The occupier or generator is also responsible "for collection, reception, treatment, storage and disposal of these wastes either himself or through the operator of a facility."

The generator is allowed to store a maximum quantity of 10,000 Kilograms or a truck load, whichever is less of his hazardous wastes on-site for a maximum period of 90 days. They may extend the storage period under unforeseen circumstances on a case-by-case basis. The occupier/generator may be allowed to store their hazardous wastes only in closed specified containers in the designated protected area.

When the hazardous waste are to be shipped for disposal, it must be done through the use of manifest. This is to track the waste from the point of its production until its final disposal, sometimes referred to as "cradle to grave."

II. Guidelines for Transportation of Hazardous Waste

The Board is required to register the authorized transports for transportation of hazardous wastes only in the specified transport vehicles. This is required to make sure that the transports of the waste, such as drivers and helpers, are sufficiently trained to respond to any spill, accident or any other emergency situation that may develop during the transit of the vehicle.

The law specifically prohibits import of hazardous wastes for dumping and disposal into the country. However, import of such wastes may be allowed for processing or re-use as raw material. This must be approved by the Board before import of the chemical.

III. Guidelines for Owner/Operator of Hazardous Waste, Storage, Treatment and Disposal Facility

The Board is required to issue license to the owner/operator of Hazardous Wastes Management facility for storage, treatment and disposal after having verified their technical, financial, and managerial capabilities.

These sites are on an approved location taking into consideration factors such as the damage to the environment in case of a spill or any other accident. Licenses to such sites are to be given after due inspection of the facility at the time of construction and operation and also closure of landfill facility.

The Board has to identify and establish standards for Principal Organic Hazardous Constituents (POHC) for stack emissions from incinerator. Also, the Board is to monitor the stack emissions, effluent and ground water quality regularly.

Each hazardous waste management facility must have an approved Emergency/Contingency Plan which must have been duly approved by the Board. The Board is required to inspect the facility after any incident for appropriate measures taken in order to avert such incidents and also to make sure that the Emergency/Contingency Plan is modified accordingly.

It is the responsibility of the waste facility to make sure that the copy of the manifest reaches the authorities after receiving the hazardous waste from the occupier/generator. The owner/operator should indicate the proposed treatment and disposal scheme to be followed for the hazardous waste. The copy of the manifest should be linked with the copy of the manifest sent by the occupier/generator. This is to make sure that the waste has been delivered from the "cradle to grave" safely.

THE PUBLIC LIABILITY INSURANCE ACT, 1991

The purpose of this Act is "to provide for public liability insurance for the purpose of providing immediate relief to the persons affected by accident occurring while handling any hazardous substance and for matters connected therewith or incidental thereto.

The Act defines an "accident" as involving a fortuitous, sudden or unintentional occurrence while handling any hazardous substance resulting in continuous damage to any property but does not include an accident by reason only of war or radioactivity.

For the first time, this Act holds the owner liable for death or injury to any person, damage to any property resulting from an accident. The "claimant shall not be required to plead and establish that death, injury or damage in respect of which the claim has been made was due to any wrongful act, neglect or default of any person. Only Workman

has been excluded from this Act as he is covered under the Workmen's Compensation Act, 1923 (8 of 1923).

The Owner is required to take out insurance policies so that he can give relief under sub-section (1) of section 3. This insurance is required within a period of one year from such commencement. Minimum amount of insurance is the paid-up capital of the undertaking handling any hazardous substance or Rs. 5 crores maximum. Penalty for not taking insurance coverage is imprisonment for one year and six months and fine of not less than one lakh rupees or both.

Under this Act, Environment Relief Fund has been established. This fund may be used in case of any emergency.

Non-compliance is punishable by 3 months imprisonment or fine which may extend to Rupees ten thousand or both. Medical expenses are also payable under this Act.

This Act provides for immediate relief of Rs. 25,000 per person in case of death and Rs. 12,500 in case of injury to be paid immediately. This amount is payable by the insurance coverage of the spiller or the company where the accident has occurred. Additional compensation, if any, will have to be settled through court.

List of chemicals with quantities for Application of Public Liability Insurance Act are specified. It also lists chemicals which are extremely hazardous.

POLLUTION FROM AUTOMOBILES AND THEIR STANDARDS

To combat this increasing pollution from vehicles, new and tougher auto standards are being enforced. The Environment (Pollution) Rules, 1986 contain these regulations.

The standards recommended during idling for all four wheeled petrol driven vehicles for carbon monoxide shall not exceed 3 percent by volume. Idling carbon monoxide emission limit for all two and three wheeled petrol driven vehicles shall not exceed 4.5 percent by volume.

Cars with mass less than 1,020 kg. load on the axle will be permitted to emit a maximum of five grams of carbon monoxide per kilometer. The combined emission of nitrous oxide and hydro carbons shall not exceed 2 grams per kilometer.

The above standards are for petrol driven vehicles only. For diesel driven vehicles, the regulations are different. For

all medium and heavy diesel vehicles with capacity over 3.5 tons, they should not emit more than 11.2 gms. of carbon monoxide per kilowatt hour (kWh) equivalent burning of fuel. The maximum permissible levels for nitrous oxide and hydrocarbons are 14.4 and 2.4 gms. per kWh.

The Ministry of Environment and Forests, Government of India now also issues the ECOMARK notifications. They are issued to consumer products that meet certain Indian Standards Institute guidelines. The product should be friendly to the environment.

OTHER REGULATORY REQUIREMENTS

As per Ministry of Environment and Forest notification dated March 13, 1992, environmental audit is required for every industry, operation or process requiring consent to operate under Section 25 of the Water (Prevention and Control of Pollution) Act, 1974 (6 of 1974) or under section 21 of the Air (Prevention and Control of Pollution) Act, 1981 (14 of 1981), or both, or authorization under the Hazardous Wastes (Management and Handling) Rules, 1989, issued under the Environment (Protection) Act, 1986 (29 of 1986). The notification requires that an Environmental Statement for the financial year ending on the 31st March be submitted to the concerned State Pollution Control Board on or before the 30th September of the same year.

Besides the above regulations, the government has issued many policies. Some of them are:

- The National Forest Policy
- The National Wild Life Action Plan
- Forest (Conservation) Act
- The Policy Statement for Abatement of Pollution
- The National Conservation Strategy and Policy Statement on Environment and Development

Regulatory agencies are now enforcing the regulations more and more. They have taken many industries to the courts enabling many landmark decisions to come out in support of enforcement of these regulations. In 1987, Mr. Justice P.N. Bhagwati enforced the "Polluter pays" principle. In April 1996, the Supreme Court ordered the closure of 513 polluting industries.

India's approach for the safeguard of the environment was summed up by Mahatma Gandhi when he said, "Earth has enough to cater to our needs, but it surely will not put up with our greed."

LIST OF PROJECTS REQUIRING ENVIRONMENTAL CLEARANCE FROM THE CENTRAL GOVERNMENT:

1. Nuclear Power and related projects such as Heavy Water Plants, Nuclear Fuel Complex, Rare Earths.
2. River Valley projects including hydel power, major irrigation and their combination including flood control.
3. Ports, Harbors, Airports (except minor ports and harbors).
4. Petroleum Refineries including crude and product pipelines.
5. Chemical Fertilizers (Nitrogenous and Phosphates other than single super phosphate).
6. Pesticides (Technical).
7. Petrochemical complexes (Both Olefinic and aromatic) and Petro-chemical intermediates such as DMT, Caprolactam LAB etc. and production of basic plastics such as LLDPE, HDPE, PP, PVC.
8. Bulk drugs and pharmaceuticals.
9. Exploration for oil and gas and their production, transportation and storage.
10. Synthetic Rubber.
11. Asbestos and Asbestos products.
12. Hydrocyanic acid and its derivatives
13. (i) Primary metallurgical industries (such as production of Iron and Steel, Aluminum, Copper Zinc, Lead and Ferro Alloys) and also
(ii) Electric arc furnaces (Mini Steel Plants).
14. Chlor-alkali industry.
15. Integrated paint complex including manufacture of resins and basic raw materials required in the manufacture of paints.
16. Viscose Staple fiber and filament yarn.
17. Storage batteries integrated with manufacture of oxides of lead and lead antimony alloys.
18. All tourism projects between 200m - 500 meters of High Water Lin and at locations with an elevation of more than 1,000 Meters with investment of more than Rs. 5 crores.
19. Thermal Power Plants.
20. Mining Projects (major minerals) with leases more than 5 hectares.
21. Highway Projects.
22. Tarred Roads in Himalayan and or Forest areas.
23. Distilleries.
24. Raw Skins and Hides.
25. Pulp, Paper and newsprint,
26. Dyes.
27. Cement.

28. Foundries (individual).
29. Electroplating.

INDUSTRIES WHICH REQUIRE INDUSTRIAL LICENSING

1. Coal and Lignite
2. Petroleum (other than crude) and its distillation products.
3. Distillation and brewing of alcoholic drinks.
4. Sugar
5. Animal fats and oils and their preparations
6. Cigars and cigarettes of tobacco and manufactured tobacco substitutes.
7. Asbestos and asbestos-based products.
8. Plywood, decorative veneers and other wood based products such as particle-board, medium density fiberboard, and block board.
9. Leather
10. Tanned or dressed furskins.
11. Paper and Newsprint except bagasse based unit. (i.e. except units based on minimum 75% pulp from agricultural residues, bagasse and other non-conventional raw materials).
12. Electronic aerospace and defense equipment all types.
13. Industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches, explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations.
14. Drugs and Pharmaceuticals (according to Drug Policy)
15. Entertainment electronics (VCRs, color TVs, CD players, tape recorders).

LIST OF POLLUTING INDUSTRIES

1. Primary metallurgical producing industries viz. zinc, lead, copper, aluminum and steel.
2. Paper, pulp and newsprint
3. Pesticides/insecticides
4. Refineries
5. Fertilizers
6. Paints
7. Dyes
8. Leather tanning
9. Rayon
10. Sodium/potassium cyanide
11. Basic drugs
12. Foundry
13. Storage Batteries (lead acid type)
14. Acids/alkalis

15. Plastics
 16. Rubber - synthetic
 17. Cement
 18. Asbestos
 19. Fermentation industry
 20. Electro-plating industry.
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NOTE:

One US Dollar equals about forty-three Indian Rupees
One Indian Rupee has one hundred paisa
One Lakh equals one hundred thousand
One Crore equals ten million.

These are not the actual wordings of the Act nor is this the listing of the Act in original.

It is only an interpretation of the environmental acts in very simple terms. This is to facilitate understanding of the laws by a working person. For actual regulations and for legal requirements, the regulations with latest amendments must be read in original and/or a lawyer must be consulted. Words from the Act itself have been very freely quoted.

The author works at DOE Albuquerque Operations Office. The views expressed in this article are his own. He Would appreciate any comments, suggestions on this article.

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